7.05

# STANDARD OPERATING PROCEDURE FOR MEASURING SECCHI DISK TRANSPARENCY

## Summary

Secchi disk transparency can be a useful and inexpensive method to assess water quality, particularly algae and suspended sediment. Secchi disk transparency as an indication of algae abundance can also be a good measure of lake trophic status.

## Interferences

Since Secchi disk transparency is a measure of light penetration, any interference which can modify visibility of the Secchi disk to the human eye should be minimized. The time of the day, the position of the sun and the amount of glare are critical.
Ropes must be made of a nonstretchable material and periodically checked with a measuring tape. (**Note:** After several wet-dry cycles the rope attached to the Secchi disk may shrink and thus affect the accuracy of the depth measurement).

## Equipment and Supplies

- Secchi Disk with 5 meters 10 feet of rope marked off in 0.1 meter depth intervals
- Field reporting form (Figure 7.05.1)

## Procedure

Secchi disk readings are obtained with a 20 cm diameter disk. Observations are made during mid day, without sunglasses and from the shady side of the boat. The observer makes the reading by looking as close as possible to the water to minimize glare.

1. Drop the Secchi disk down until it is no longer visible

2. Bring the Secchi disk up until you can just barely see it.

3. Record the depth at which the Secchi disk is again visible.

4. Repeat the above procedure and average the two readings for the final Secchi disk depth.

**North Dakota Department of Health**
**Division of Water Quality**
**Lake and Wetland Profile Field Log**
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|---|---|---|---|
| **Project Code:** | | **Project Name:** | |
| **Site Identification:** | | **Site Description:** | |
| **Date: / /** | **Time: :** | **Ambient Temp:** | **Wind Speed:** |
| **Wind Direction:** | **%Cloud Cover:** | **Secchi Disk: (m)** | **Baro: (mm/Hg)** |
| **Chlorophyll-a:** | **Phytoplankton:** | **Initial DO:** | **Final DO:** |
| **Sample Depths:_____ Meters _____** | | **Meters _____ Meters _____** | |
| **Sampler(s):** | | | |
| **Comments:** | | | |

| Depth (m) | Temp (c) | DO (Mg/L) | pH | Specific Conduct. | Comments |
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**Figure 7.05.1** Lake and wetland field log.